

IN THE CLAIMS:

Please amend the claims as follows:

Claims 1-56 (canceled).

57. (currently amended) A non-human, mammalian embryo clone of a pre-existing, non-embryonic mammal from which a differentiated cell has been taken, ~~wherein the embryo clone has the same set of chromosomes as the pre-existing mammal,~~

wherein the embryo clone is produced by a process comprising:

(a) transferring the nucleus of the differentiated cell or a cell obtained by culture thereof into an enucleated, metaphase II-arrested oocyte from the same species,

wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;

(b) activating the oocyte; and

(c) incubating the activated oocyte such that the embryo clone develops,

wherein the embryo clone is capable of developing to term.

58. (previously presented) The non-human, mammalian embryo clone of claim 57, wherein the non-human, non-embryonic mammal is selected from the group consisting of cattle, sheep, pigs, goats, mice, and rabbits.

59. (previously presented) The non-human, mammalian embryo clone of claim 57, wherein the differentiated cell or cell obtained by culture thereof is cultured *in vitro*.

60. (previously presented) The non-human, mammalian embryo clone of claim 58, wherein the differentiated cell or cell obtained by culture thereof is abstracted *ex vivo*.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

61. (currently amended) A non-human mammalian clone of a pre-existing, non-embryonic mammal from which a differentiated cell has been taken,

~~wherein the clone has the same set of chromosomes as the pre-existing mammal,~~

wherein the clone is produced by a process comprising:

(a) transferring the nucleus of the differentiated cell or a cell obtained by culture thereof into an enucleated, metaphase II-arrested oocyte from the same species, wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;

(b) activating the oocyte; and

(c) incubating the activated oocyte such that an embryo develops;

(d) transferring the embryo to a female of the same species; and

(e) developing the embryo into the non-human mammalian clone.

62. (previously presented) The non-human mammalian clone of claim 61, wherein the non-human, non-embryonic mammal is selected from the group consisting of cattle, sheep, pigs, goats, mice, and rabbits.

63. (previously presented) The non-human mammalian clone of claim 61, wherein the differentiated cell or cell obtained by culture thereof is cultured *in vitro*.

64. (previously presented) The non-human mammalian clone of claim 61, wherein the differentiated cell or cell obtained by culture thereof is abstracted *ex vivo*.

65. (currently amended) A non-human, ~~transgenic mammal~~ ~~mammalian embryo~~ ~~clone of a pre-existing, non-embryonic mammal from which a differentiated cell has been taken,~~

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GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

wherein the embryo clone is produced by a process comprising:

- (a) obtaining the a differentiated cell from the a pre-existing, non-human, non-embryonic mammal;
- (b) genetically modifying the differentiated cell;
- (c) transferring the nucleus of the genetically modified cell into an enucleated, metaphase II-arrested oocyte from the same species, wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;
- (d) activating the oocyte; and
- (e) incubating the activated oocyte such that the embryo clone transgenic mammal develops,

wherein the embryo clone transgenic mammal is capable of developing to term.

66. (currently amended) The non-human, mammalian embryo clone transgenic mammal of claim 65, wherein the non-human, non-embryonic mammal is selected from the group consisting of cattle, sheep, pigs, goats, mice, and rabbits.

67. (currently amended) A non-human, transgenic mammal mammalian clone of a pre-existing, non-embryonic mammal from which a differentiated cell has been taken,

wherein the clone is produced by a process comprising:

- (a) obtaining the a differentiated cell from the a pre-existing, non-human, non-embryonic mammal;
- (b) genetically modifying the differentiated cell;
- (c) transferring the nucleus of the genetically modified cell into an enucleated, metaphase II-arrested oocyte from the same species,

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1300 I Street, NW
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202.408.4000
Fax 202.408.4400
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wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;

- (d) activating the oocyte; and
- (e) incubating the activated oocyte such that an embryo develops;
- (f) transferring the embryo to a female of the same species; and
- (g) developing the embryo to term into the non-human mammalian clone.

68. (currently amended) The non-human mammalian clone transgenic mammal of claim 67, wherein the non-human, non-embryonic mammal is selected from the group consisting of cattle, sheep, pigs, goats, mice, and rabbits.

69. (currently amended) A non-human, non-embryonic mammal from which a differentiated donor cell has been taken and a clone thereof of the non-human mammal produced from the cell,

~~wherein the clone has the same set of chromosomes as the non-human mammal and wherein the clone is made by a process comprising:~~

- (a) transferring the nucleus of the differentiated cell or a cell obtained by culture thereof into an enucleated, metaphase II-arrested oocyte of the same species, wherein the differentiated cell or cell obtained by culture thereof is a diploid cell in the G1 phase of the cell cycle at the time of transfer;
- (b) activating the oocyte; and
- (c) incubating the activated oocyte such that an embryo develops;
- (d) transferring the embryo to a female of the same species; and
- (e) developing the embryo to term ~~into a clone that has the same set of chromosomes as the non-human mammal.~~

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DUNNER LLP

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Washington, DC 20005
202.408.4000
Fax 202.408.4400
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70. (currently amended) A cell preparation culture comprising non-human mammalian differentiated cells and a non-human mammalian clone of a non-human mammal produced from a cell in the cell preparation therefrom, wherein the clone has the same set of chromosomes as cells in the cell culture,

wherein the cell preparation comprises differentiated cells from a non-human mammal,

and wherein the clone is made by a process comprising:

- (a) transferring the nucleus of a differentiated cell from the cell preparation culture into an enucleated, metaphase II-arrested oocyte of the same species, wherein the differentiated cell is a diploid cell in the G1 phase of the cell cycle at the time of transfer;
- (b) activating the oocyte; and
- (c) incubating the activated oocyte such that an embryo develops;
- (d) transferring the embryo to a female of the same species; and
- (e) developing the embryo to term into a clone that has the same set of chromosomes as cells in the cell culture.

71. (previously presented) A reconstituted non-human mammalian oocyte comprising the nucleus of a differentiated non-human mammalian diploid donor cell from the same species in the G1 phase of the cell cycle,

wherein the reconstituted non-human mammalian oocyte is capable of developing to term.

72. (new) A cell preparation and a live-born clone of a non-embryonic, non-human mammal,

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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wherein the clone is produced from a cell in the preparation, and
wherein the cell preparation comprises differentiated cells from the non-
embryonic, non-human mammal.

73. (new) The cell preparation and clone according to claim 72, wherein the
mammal is a sheep.

74. (new) The cell preparation and clone according to claim 72, wherein the
mammal is a pig.

75. (new) The cell preparation and clone according to claim 72, wherein the
mammal is a goat.

76. (new) The cell preparation and clone according to claim 72, wherein the
mammal is a mouse.

77. (new) The cell preparation and clone according to claim 72, wherein the
mammal is a rabbit.

78. (new) The cell preparation and clone according to claim 72, wherein the
mammal is a cow.

79. (new) A cell preparation and a clone of a non-embryonic, non-human
mammal,

wherein the clone is produced from a cell in the preparation,
wherein the cell preparation comprises differentiated cells from the non-
embryonic, non-human mammal, and

wherein the clone is capable of developing to term.

80. (new) The cell preparation and clone according to claim 79, wherein the
mammal is a sheep.

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Washington, DC 20005
202.408.4000
Fax 202.408.4400
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81. (new) The cell preparation and clone according to claim 79, wherein the mammal is a pig.

82. (new) The cell preparation and clone according to claim 79, wherein the mammal is a goat.

83. (new) The cell preparation and clone according to claim 79, wherein the mammal is a mouse.

84. (new) The cell preparation and clone according to claim 79, wherein the mammal is a rabbit.

85. (new) The cell preparation and clone according to claim 79, wherein the mammal is a cow.

86. (new) A pair of live-born, non-human mammals comprising a parental non-human mammal and its offspring clone.

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